

SONY®

Mini Hi-Fi Component System

Operating Instructions



MHC-S3

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.

The MHC-S3 consists of the following components:

- A/V amplifier	TA-S3
- Tuner	ST-S3
- CD player	CDP-S3
- Cassette deck	TC-S3
- Speaker system	SS-S3

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the apparatus.



To prevent fire, do not Cover the ventilation of the apparatus with news papers, table-cloths, curtains, etc. And don't place lighted candles on the apparatus.

To prevent fire or shock hazard, do not place objects filled with liquids, such as vases, on the apparatus.



Don't throw a battery, dispose it as the injurious wastes.

This system incorporates Dolby* Digital and DTS** System.

* Manufactured under license from Dolby Laboratories.

“Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

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** Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942, 5,956,674, 5,974,380, 5,978,762 and other world-wide patents issued and pending. “DTS” is a registered trademark of Digital Theater Systems, Inc.

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* European model only.

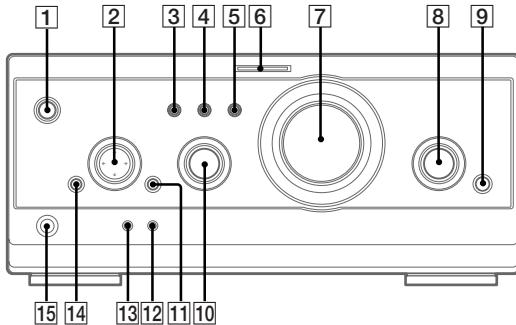
Parts Identification

The items are arranged in alphabetical order.

Refer to the pages indicated in parentheses () for details.

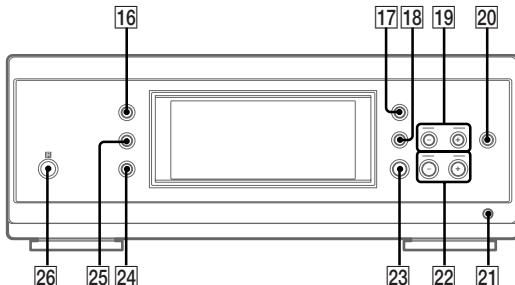
Main unit

A/V amplifier



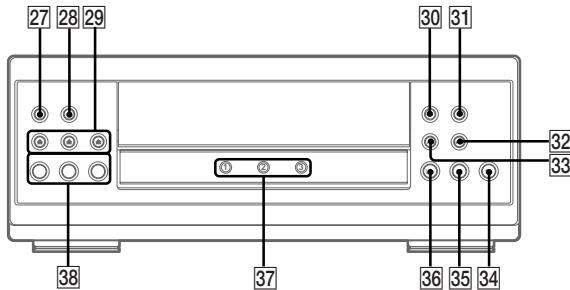
- DIGITAL **[9]** (28, 32)
- ENTER/ $\uparrow/\downarrow/\leftarrow/\rightarrow$ **[2]** (9, 12, 18, 19, 22–27)
- EQ **[1]** (24)
- EQ ON/OFF **[12]** (9, 24)
- FILE SELECT **[10]** (20, 24)
- FUNCTION **[8]** (9, 11, 12, 17, 18, 28)
- GROOVE **[5]** (20)
- MOVIE MODE **[4]** (20, 21)
- MULTI CHANNEL DECODING indicator **[6]** (22)
- MUSIC MODE **[3]** (20, 21)
- PHONES jack **[15]**
- SET UP **[13]** (23–26)
- SUR **[14]** (22)
- VOLUME **[7]**
- /□ (power) **[1]** (8, 9, 32)

Tuner



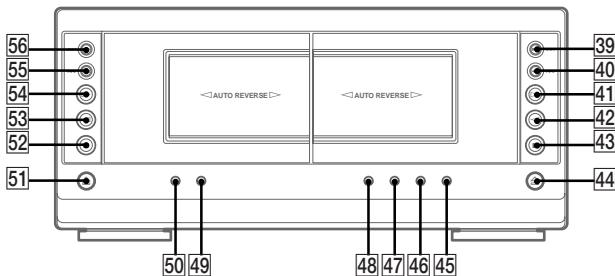
- CLOCK/TIMER **[25]** (9, 18, 26)
- DISPLAY **[16]** (10, 13, 15, 26, 32)
- ENTER **[20]** (14, 15)
- IR receptor **[26]**
- PRESET $+-$ **[22]** (14, 15)
- PTY **[21]** (15)
- STEREO/MONO **[17]** (14)
- TIMER SELECT **[24]** (19, 27)
- TUNER/BAND **[23]** (14)
- TUNER MEMORY **[18]** (14)
- TUNING $+-$ **[19]** (14)

CD player



- DISC 1-3 **38** (11, 12, 18)
- DISC 1-3 indicators **37**
- DISC 1-3 **▲** (eject) **29** (11)
- PLAY MODE **27** (11, 12, 18)
- REPEAT **28** (11)
- ▶** (play) **36** (11, 12)
- (pause) **35** (11)
- (stop) **34** (11, 17)
- ◀◀** (go back) **33** (11, 12, 18)
- ▶▶** (go forward) **32** (11, 12, 18)
- ◀◀** (rewind) **30** (11)
- ▶▶** (fast forward) **31** (11)

Cassette deck

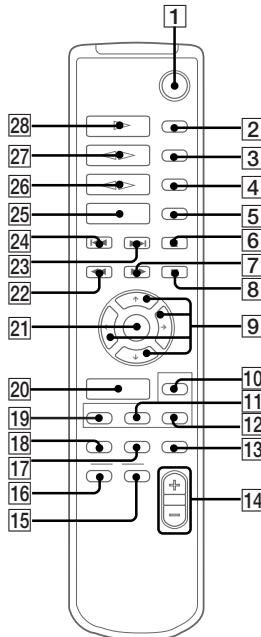


- CD SYNC **46** (17, 18)
- DIRECTION **50** (16-18)
- DOLBY NR **49** (16-18)
- EDIT **48** (18)
- HI-DUB **47** (17)
- REC PAUSE/START **45** (17, 18)

- Deck A -
 - ▶** (forward play) **54** (16)
 - ◀** (reverse play) **53** (16)
 - (stop) **52** (16)
 - ▶▶/▶▶** (fast forward/go forward) **56** (16)
 - ◀◀/◀◀** (rewind/go back) **55** (16)
 - ▲** (eject) **51** (16)

- Deck B -
 - ▶** (forward play) **41** (16, 17)
 - ◀** (reverse play) **42** (16, 17)
 - (stop) **43** (16, 17)
 - ▶▶/▶▶** (fast forward/go forward) **39** (16)
 - ◀◀/◀◀** (rewind/go back) **40** (16)
 - ▲** (eject) **44** (16)

Remote Control



CD ▷ [28] (11, 12)
CHECK [3] (12)
CLEAR [4] (12)
CLOCK/TIMER SELECT [15] (19, 27)
CLOCK/TIMER SET [16] (9, 18, 26)
DBFB [13] (20)
DISPLAY [18] (10, 13, 15, 26, 32)
D.SKIP [2] (11)
ENTER [21] (9, 12, 14, 15, 18, 19, 22-27)
EQ [11] (24)
EQ ON/OFF [12] (9, 24)

FUNCTION [20] (9, 11, 12, 17, 18, 28)
GROOVE [17] (20)
SET UP [10] (23-26)
SLEEP [5] (26)
SUR [19] (22)
TAPE A ▷/◁ [27] (16)
TAPE B ▷/◁ [26] (16, 17)
TUNER/BAND [25] (14)
TUNING + [7] (14)
TUNING - [22] (14)
VOL +/- [14]

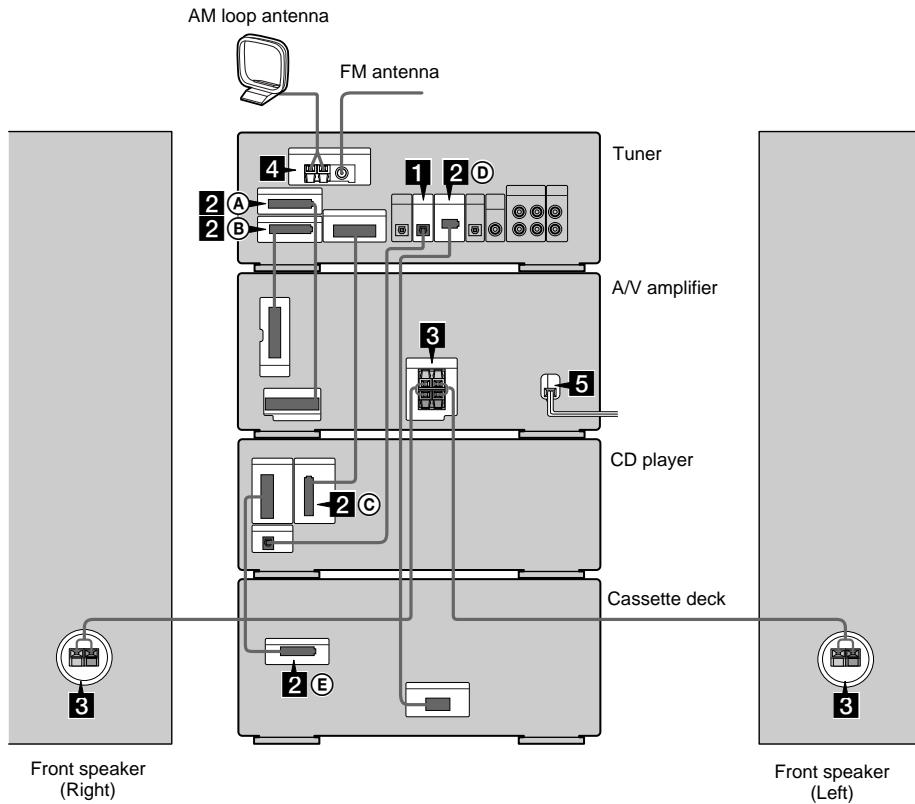
BUTTON DESCRIPTIONS

■/□ (power) [1]
■ (pause) [8]
■ (stop) [6]
◀ (go back) [24]
▶ (go forward) [23]
◀ (rewind) [22]
▶ (fast forward) [7]
↑/↓/↔/↔ [9]

Hooking up the system

Do the following procedure **1** to **5** to hook up your system using the supplied cords and accessories.

Before connecting, place the system as described below.



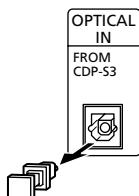
continued

Hooking up the system (continued)

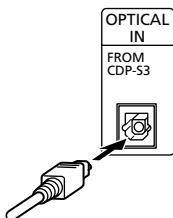
1 Connect the CD player and the tuner with the optical cable.

Connect from the OPTICAL OUT jack on the CD player to the OPTICAL IN jack on the tuner.

① Remove the cover of the jack.



② Connect the optical cable.



2 Connect the flat system control cables to the SYSTEM CONTROL connectors until it clicks.

Connect to the same colored jack in the order indicated on the rear panel.

Ⓐ SYSTEM CONTROL 1 (Red)

Connect from the tuner to the A/V amplifier.

Ⓑ SYSTEM CONTROL 2 (Blue)

Connect from the tuner to the A/V amplifier.

Ⓒ SYSTEM CONTROL 3 (Black)

Connect from the CD player to the tuner.

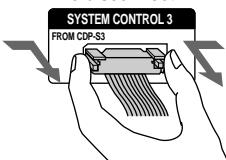
Ⓓ SYSTEM CONTROL 4 (Black)

Connect from the tuner to the cassette deck.

Ⓔ SYSTEM CONTROL 5 (White)

Connect from the cassette deck to the CD player.

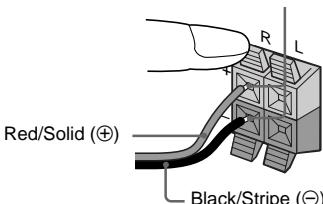
To disconnect



3 Connect the front speakers.

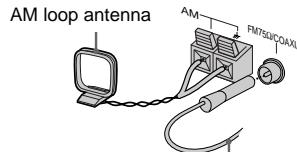
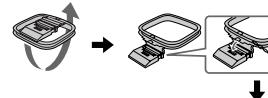
Connect the speaker cords to the FRONT SPEAKER jacks.

Insert only the stripped portion.



4 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.



Extend the FM lead antenna horizontally.

5 Connect the power cord to a wall outlet.

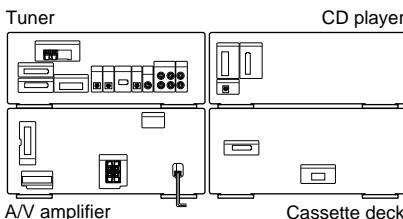
The demonstration appears in the display.

When you press **I/O**, the system turns on and the demonstration automatically ends.

If the supplied adaptor on the plug does not fit your wall outlet, detach it from the plug (only for models equipped with an adaptor).

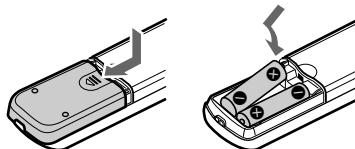
Tip

You can place the components as described below. In this case, place the components first, then connect the components.

**Note**

Keep the speaker cords away from the antennas to prevent noise.

Inserting two size AA (R6) batteries into the remote

**Tip**

When the remote no longer operates the system, replace both batteries with new ones.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Notice for carrying this system

Do the following to protect the CD mechanism.

- 1 Turn on the system, then turn FUNCTION to select "CD". Make sure that all discs are removed from the unit.
- 2 While holding down EQ ON/OFF, press I/∅ until "LOCK" appears.
- 3 Release I/∅ first, then release EQ ON/OFF.
- 4 Unplug the AC power cord.

Setting the time

1 Turn on the system.

2 Press CLOCK/TIMER (or CLOCK/TIMER SET on the remote).

When you set the time for the first time, proceed to step 5.

3 Press \uparrow or \downarrow repeatedly to select "CLOCK SET".

4 Press ENTER (A/V amplifier or remote).

5 Press \uparrow or \downarrow repeatedly to set the hour.

6 Press ENTER (A/V amplifier or remote).

7 Press \uparrow or \downarrow repeatedly to set the minutes.

8 Press ENTER (A/V amplifier or remote).

Tip

If you have made a mistake or want to change the time, start over from step 2.

Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

Saving the power in standby mode

Press DISPLAY repeatedly when the power is off.

Each time you press the button, the system switches cyclically as follows:

Demonstration → Clock → Power Saving Mode

To cancel the Power Saving Mode

Press DISPLAY once to show the demonstration, twice to show the clock display.

Tips

-  indicator lights up even in the Power Saving Mode.
- The timer functions during the Power Saving Mode.

Note

During the Power Saving Mode, the following functions do not work:

- Setting the time.
- One Touch Play function.

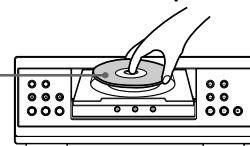
Loading a CD

1 Press one of the DISC 1–3 ▲ buttons.

The disc tray slides out.

2 Place a CD with the label side up on the disc tray.

When you play a CD single, place it on the inner circle of the tray.



To insert additional discs, press ▲ of the other numbers to open the disc tray.

3 Press the same button to close the disc tray.

Playing a CD

— Normal Play/Repeat Play/Shuffle Play

This unit lets you play the CD in different play modes.

Disc tray number	Track number	Playing time
CD 1-2	1-2	3:52

1 Turn FUNCTION to select "CD".

2 When playback is stopped, press PLAY MODE repeatedly until the mode you want appears in the display.

Select	To play
ALL DISCS	All CDs in the disc tray continuously.
1 DISC	The CD you have selected in the original order.
ALL DISCS SHUFFLE	The tracks on all CDs in random order.
1 DISC SHUFFLE	The tracks on the CD you have selected in random order.
PROGRAM	The tracks on all CDs in the order you want them to be played (see "Programming the CD tracks" on page 12).

3 Press ► (CD) (or CD ▷ on the remote).

Tip

You cannot change the play mode during playback.

Other operations

To	Do this
Stop playback	Press ■ (CD).
Pause playback	Press ■■. Press again to resume playback.
Select a track	During playback or pause, press ►► (CD) (to go forward) or ◀◀ (CD) (to go back).
Find a point in a track	Press and hold ►► or ◀◀ (CD) during playback and release it at the desired point.
Select a CD	Press one of the DISC 1–3 buttons (or D.SKIP on the remote).
Switch to CD function from another source	Press one of the DISC 1–3 buttons (Automatic Source Selection).
Play repeatedly (Repeat Play)	Press REPEAT during playback until "REPEAT" or "REPEAT 1" appears. REPEAT*: For all the tracks on the CD up to 5 times. REPEAT 1: For a single track only. To cancel Repeat Play, press REPEAT until "REPEAT" and "REPEAT 1" disappears.
Remove the CD	Press one of the DISC 1–3 ▲ buttons.

*You cannot use this function during ALL DISCS SHUFFLE.

Note

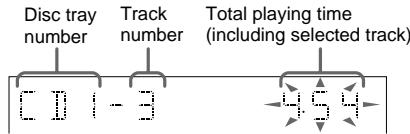
Do not use force to close the disc tray, as this may cause the CD player trouble. Always close the disc tray by pressing one of the DISC 1–3 ▲ buttons.

Programming the CD tracks

— Program Play

You can make a program of up to 25 tracks from all the CDs in the order you want them to be played.

- 1 Turn **FUNCTION** to select "CD", then place a CD.
- 2 Press **PLAY MODE** repeatedly when the playback is stopped until "PROGRAM" appears in the display.
- 3 Press one of the **DISC 1–3** buttons to select a CD.
- 4 Press **◀◀** or **▶▶** (CD) repeatedly until the track you want appears in the display.



- 5 Press **ENTER** (A/V amplifier or remote). The track(s) is (are) programmed. The program step number appears, followed by the total playing time.
- 6 To program additional tracks, repeat steps 3 to 5.
- 7 Press **▶** (CD) (or **CD ▶** on the remote).

To	Press
Cancel Program Play	PLAY MODE repeatedly when the playback is stopped until "1 DISC" or "ALL DISCS" appears in the display.
Check the program	CHECK on the remote repeatedly. After the last track, "CHECK END" appears in the display.
Clear a track	CLEAR on the remote when the playback is stopped. Each time you press the button, a track is cleared from the end of the program.
Clear a specific track	CHECK on the remote repeatedly until the track number you want to clear appears, then press CLEAR on the remote.
Add a track to the program when playback is stopped	<ol style="list-style-type: none">1 Press one of the DISC 1–3 buttons to select a CD.2 Press ◀◀ or ▶▶ (CD) repeatedly to select the track.3 Press ENTER (A/V amplifier or remote).

Tips

- The program you made remains in the system's memory even after it has been played back. Press **▶** (CD) to play the same program again.
- If "---" appears instead of the total playing time during programming, this means:
 - you have programmed a track number which exceeds 20.
 - the total playing time has exceeded 100 minutes.

Using the CD display

You can check the remaining time of the current track or that of the CD.

When a CD TEXT disc is loaded, you can check the information stored on the disc. When the unit detects CD TEXT discs, the “CD TEXT” indication appears in the display.

CD

Press DISPLAY.

Each time you press the button, the display changes cyclically as follows:

During normal playback

Playing time on the current track →

Remaining time on the current track →

Remaining time on the current CD (“1 DISC” mode) or “--.--” display (“ALL DISCS” mode)

→ Title name of the current track* → Clock display (for 8 seconds) → Effect status (for 8 seconds)

When playback is stopped

Total number of tracks and the total playing time** → Title name of the CD* → Clock display (for 8 seconds) → Effect status (for 8 seconds)

* With CD TEXT discs only (certain characters cannot be displayed). Depending on the disc, some CD TEXT information may not appear. When the disc contains more than 20 tracks, CD TEXT information is not displayed from track 21 on.

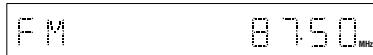
** When the program mode is selected and there is a program, the last track number, the total playing time, and the total number of the programmed tracks are displayed.

Presetting radio stations

You can preset 20 stations for FM and 10 stations for AM.

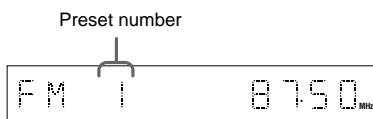
- 1 Press TUNER/BAND repeatedly to select FM or AM.
- 2 Press and hold TUNING + or – until “AUTO” appears in the display.

Scanning stops when the system tunes in a station. “TUNED” and “STEREO” (for a stereo program) appear.



- 3 Press TUNER MEMORY.

A preset number appears in the display. The stations are stored from preset number 1.



- 4 Press ENTER (Tuner or remote).

The station is stored.

- 5 Repeat steps 1 to 4 to store other stations.

To tune in a station with a weak signal

Press TUNING + or – repeatedly to tune in the station manually.

To set another station to an existing preset number

Start over from step 1. After step 3, press PRESET + or – repeatedly to select the preset number where you want to store a new station, then proceed to step 4.

Tip

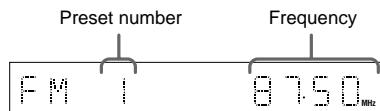
The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.

Listening to the radio

— Preset Tuning

Preset radio stations in the tuner’s memory first (see “Presetting radio stations”).

- 1 Press TUNER/BAND repeatedly to select the band you want.
- 2 Press PRESET + or – repeatedly to tune in the preset station you want.



To	Do this
Turn off the radio	Press I/Off.

To listen to non-preset radio stations

In step 2, press TUNING + or – repeatedly (Manual Tuning) or press and hold TUNING + or – (Automatic Tuning).

Tips

- When an FM program is noisy, press STEREO/MONO so that “MONO” appears in the display. There will be no stereo effect, but the reception will improve.
- To improve broadcast reception, reorient the antennas.

Using the Radio Data System (RDS)

(European model only)

What is the Radio Data System?

Radio Data System (RDS) is a broadcasting service that allows radio stations to send additional information along with the regular program signal. This tuner offers convenient RDS features like station name display and location of stations by program type. RDS is available only for FM stations.

Note

RDS may not work properly if the station you are tuned to is not transmitting the RDS signal properly or if the signal is weak.

Receiving RDS broadcasts

Simply select a station from the FM band.

When you tune in a station that provides RDS services, the station name appears in the display.

To check the RDS information

Press DISPLAY.

Each time you press the button, the display changes cyclically as follows:

Station name* → Frequency → Program type* → Clock display → Effect status

* If the RDS broadcast is not received, the station name and program type may not appear in the display.

Locating a station by program type (PTY)

You can locate a station you want by selecting a program type. The tuner tunes in the type of programs currently being broadcast from the RDS stations stored in the tuner's preset memory.

The types of programs include NEWS, AFFAIRS (current news), INFORMATION, SPORT, EDUCATION (education programs), DRAMA, CULTURE, SCIENCE, VARIED (interviews, games and comedy), POP, ROCK, EASY MUSIC, L.CLASSICAL, S.CLASSICAL, OTHER MUSIC, WEATHER, FINANCE, CHILDREN, SOCIAL, RELIGION, PHONE IN, TRAVEL, LEISURE, JAZZ, COUNTRY (country music), NATION (nation's popular music), OLDIES, FOLK, DOCUMENTARY (investigative features), ALARM TEST (test signal for emergency broadcast), ALARM-ALARM (emergency broadcast) and NONE (any programs not defined above).

1 Press PTY while listening to the radio.

2 Press PRESET + or – repeatedly to select the program type you want.

3 Press ENTER (Tuner or remote).

“SEARCH” and the selected program type appear alternately in the display.

When the tuner receives a program, the preset station name flashes.

4 Press PRESET + or – repeatedly to continue searching for the station name you want.

5 Press ENTER (Tuner or remote) while the preset station name you want is flashing.

To cancel the PTY search

Press PTY again.

Note

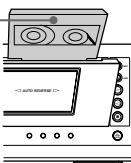
“NO PTY” appears when the program type you selected is not currently being broadcast.

Loading a tape

1 Press **▲** (Deck A or B).

2 Insert a tape in deck A or B.

Insert with the side you want to play/record facing forward.



Playing a tape

You can use TYPE I (normal), TYPE II (CrO₂), or TYPE IV (metal) tapes. The deck automatically detects the tape type.

1 Load a tape.

2 Press DIRECTION repeatedly to select **↔** to play one side, **↔↔** to play both sides, or **RELAY*** (Relay Play) to play both decks in succession.

3 Press **▶** (Deck A or B) (or, **TAPE A** **◀▶** or **TAPE B** **◀▶** on the remote).

The tape starts playing.

Press **◀** (Deck A or B) to play the reverse side. When using the remote, press **TAPE A** **◀▶** or **TAPE B** **◀▶** again.

When you select **↔↔** or **RELAY**, the deck stops automatically after repeating the sequence 5 times.

* Relay Play always follows this cyclic sequence:
Deck A (front side) → Deck A (reverse side) →
Deck B (front side) → Deck B (reverse side)

Tip

When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR" appears in the display.

Searching for the beginning of a track (AMS*)

During playback, press **◀◀** or **▶▶** (Deck A or B) repeatedly for the number of songs you want to skip forward (or backward).

The search direction, + (forward) or - (back), and number of songs being skipped (1–9) appear in the display.

Example: searching forward 2 songs

TAPE BYYY+2

* Automatic Music Sensor

Note

The AMS function may not operate correctly under the following circumstances:

- When the unrecorded space between songs is less than 4 seconds long.
- When the unit is placed near a television.

Recording to a tape

— CD Synchro Recording/High-Speed Dubbing/Recording Manually/Program Edit

You can record from a CD, tape, radio or other connected component. You can use TYPE I (normal) or TYPE II (CrO₂) tapes. The recording level is adjusted automatically.

Steps	Recording from a CD (CD Synchro Recording)	Recording from a tape (High-Speed Dubbing)	Recording manually
1	Insert a recordable tape into deck B.		
2	Turn FUNCTION to select “CD”.	Turn FUNCTION to select “TAPE A”.	Turn FUNCTION to select the recording source.
3	Insert the CD you want to record.	Insert the tape you want to record into deck A.	Prepare the recording source.
4	Press CD SYNC.	Press HI-DUB.	Press REC PAUSE/ START.
	Deck B stands by for recording. “REC” indicator flashes in the display. To reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that “DOLBY NR” appears in the display (except when recording from a tape).		
5	Press DIRECTION repeatedly to select \leftrightarrow to record on one side. Select \leftrightarrow (or RELAY) to record on both sides.		
6	Press REC PAUSE/START. Recording starts.		
7			Start playing the recording source.

To	Press
Stop recording	■ (CD or Deck B).
Pause recording*	REC PAUSE/START.

* Only when recording manually.

Tips

- If you want to record from the reverse side, press \blacktriangleleft or \blacktriangleright (Deck B) (or TAPE B $\blacktriangleleft\blacktriangleright$ on the remote) which does not light up after step 4 (when the deck B is in recording pause).
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- (High-Speed Dubbing only)
If you set direction to \leftrightarrow when the tapes have different lengths, the tapes in each deck reverses independently. If you select RELAY, the tapes in both decks reverse together.

Note

The sound field automatically switches to 2CH STEREO when you start recording.

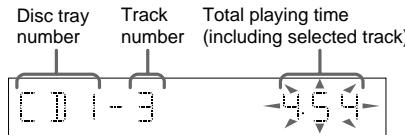
continued

Recording a CD by specifying track order

— Program Edit

When programming, make sure the playing times for each side do not exceed the length of one side of the tape.

- 1 Insert a CD and a recordable tape into deck B, then turn FUNCTION to select “CD”.**
- 2 Press PLAY MODE repeatedly when the playback is stopped until “PROGRAM” appears in the display.**
- 3 Press one of the DISC 1–3 buttons to select a CD.**
To program all the tracks on a CD at once, proceed to step 5 while “AL” appears in the display.
- 4 Press \blacktriangleleft or \triangleright (CD) repeatedly until the track you want appears in the display.**



- 5 Press ENTER (A/V amplifier or remote).**
The track(s) is (are) programmed. The program step number appears, followed by the total playing time.
- 6 To program additional tracks, repeat steps 3 to 5.**
Skip step 3 to select tracks from the same disc.
- 7 Press CD SYNC.**
Deck B stands by for recording. To reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that “DOLBY NR” appears in the display. “REC” indicator in the display flashes.

- 8 Press DIRECTION repeatedly to select \longleftrightarrow to record on one side. Select \longleftrightarrow (or RELAY) to record on both sides.**

- 9 Press REC PAUSE/START.**
Recording starts.

To cancel Program Edit

Press PLAY MODE repeatedly when the playback is stopped until “1 DISC” or “ALL DISCS” appears in the display.

Tip

To check the required tape length for recording a CD, press EDIT after you have inserted a CD and selected CD function. The required tape length for the currently selected CD appears, followed by the total playing time for side A and side B (Tape Select Edit).

Note

You cannot use Tape Select Edit Function for discs containing over 21 tracks. “CANNOT EDIT” appears in the display.

Timer-recording radio programs

To timer-record, you must set the clock (see “Setting the time” on page 9) and preset the radio stations (see “Presetting radio stations” on page 14) beforehand.

- 1 Tune in the preset radio station (see “Listening to the radio” on page 14).**
- 2 Press CLOCK/TIMER (or CLOCK/TIMER SET on the remote).**
“DAILY1 SET” flashes.
- 3 Press \uparrow or \downarrow repeatedly to select “REC SET”, then press ENTER.**
“ON” appears and the hour indication flashes.
- 4 Set the time to start recording.**
Press \uparrow or \downarrow repeatedly to set the hour, then press ENTER (A/V amplifier or remote).
The minute indication flashes.
Press \uparrow or \downarrow repeatedly to set the minutes, then press ENTER (A/V amplifier or remote).
The hour indication flashes again.

5 Set the time to stop recording following step 4.

The start time appears, followed by the stop time, the preset radio station to be recorded (e.g., “TUNER FM 5”), then the original display appears.

6 Insert a recordable tape into deck B.

7 Turn off the power.

When the recording starts, the volume level is set to the minimum.

To	Do this
Check the setting	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote) and press \uparrow or \downarrow repeatedly to select “REC SELECT”, then press ENTER (A/V amplifier or remote).
Change the setting	Start over from step 1.
Cancel the Timer-recording	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote) and press \uparrow or \downarrow repeatedly to select “TIMER OFF”, then press ENTER (A/V amplifier or remote).

Notes

- If the power is on at the preset time, the Timer-recording does not work.
- When you use the Sleep Timer, the Timer-recording will not turn on the system until the Sleep Timer turns it off.
- The power turns on 15 seconds before the preset time.

Adjusting the sound

To reinforce bass (DBFB*)

Press DBFB on the remote.

Each time you press the button, the display changes as follows:

DBFB ON ↔ DBFB OFF

* Dynamic Bass Feedback

For a powerful sound

Press GROOVE.

Each time you press the button, the display changes cyclically as follows:

GROOVE → V-GROOVE → GROOVE OFF

GROOVE: The GROOVE button lights up. The volume switches to power mode and the equalizer curve changes. DBFB is automatically set to full strength.

V-GROOVE: The GROOVE button lights up. The volume switches to power mode, the lower bass frequencies of the sound you are listening to is powerfully reinforced, and the equalizer curve changes. DBFB is automatically set to full strength.

Selecting a sound field

Press MUSIC MODE or MOVIE MODE, then turn FILE SELECT to select the sound field you want.

The display changes as follows:

After pressing MUSIC MODE*:

2CH STEREO ↔ SMALL HALL ↔
LARGE HALL ↔ OPERA HOUSE ↔
JAZZ CLUB ↔ DISCO/CLUB ↔
CHURCH ↔ LIVE HOUSE ↔
ARENA ↔ STADIUM ↔ GAME ↔
2CH STEREO...

* The MUSIC MODE button lights up.

After pressing MOVIE MODE*:

SEMI C.EX A ↔ SEMI C.EX B ↔
SEMI C.EX C ↔ V.SEMI M.D. ↔
V.ENHANCE.A ↔ V.ENHANCE.B ↔
SEMI C.EX A...

* The MOVIE MODE button lights up.

See below for the information of each sound field.

Tips

- You can also select a sound field by pressing MUSIC MODE or MOVIE MODE repeatedly. Each time you press the button, the display changes cyclically as described above.
- You can also select a sound field by pressing \leftarrow or \rightarrow while indicators on the SUR and EQ buttons are turned on or off.
- You can identify the encoding format of program software by looking at its packaging. Dolby Digital discs are labeled with the  logo.
- In the sound field selecting mode, you can switch to MOVIE MODE by pressing \downarrow and MUSIC MODE by pressing \uparrow .

<MUSIC MODE>

■ 2 Channel Stereo (2CH STEREO)

Outputs the sound from the front left and right speakers and a subwoofer. Standard two channel (stereo) sources completely bypass the sound field processing. Multi channel surround formats are downmixed to two channels.

■ SMALL HALL

Reproduces the acoustics of a small rectangular concert hall.

■ LARGE HALL

Reproduces the acoustics of a large rectangular concert hall.

■ OPERA HOUSE

Reproduces the acoustics of an opera house.

■ JAZZ CLUB

Reproduces the acoustics of a jazz club.

■ DISCO/CLUB

Reproduces the acoustics of a discotheque/dance club.

■ CHURCH

Reproduces the acoustics of a stone church.

■ LIVE HOUSE

Reproduces the acoustics of a 300-seat live house.

■ ARENA

Reproduces the acoustics of a 1000-seat concert hall.

■ STADIUM

Reproduces the feeling of a large open-air stadium.

■ GAME

Obtains maximum audio impact from video game software.

<MOVIE MODE>**■ Semi Cinema Studio EX. A
(SEMI C.EX A)***

Reproduces the sound characteristics of Sony Pictures Entertainment's classic editing studio using the 3D sound imaging of V.SEMI M.D. to create 5 sets of virtual speakers surrounding the listener from the sound of the front speakers.

**■ Semi Cinema Studio EX. B
(SEMI C.EX B)***

Reproduces the sound characteristics of Sony Pictures Entertainment's mixing studio which is one of the most up-to-date facilities in Hollywood. The 3D sound imaging of V.SEMI M.D. is used to create 5 sets of virtual speakers surrounding the listener from the sound of the front speakers.

**■ Semi Cinema Studio EX. C
(SEMI C.EX C)***

Reproduces the sound characteristics of Sony Pictures Entertainment's BGM recording studio using the 3D sound imaging of V.SEMI M.D. to create 5 sets of virtual speakers surrounding the listener from the sound of the front speakers.

**■ Virtual Semi Multi Dimension
(V.SEMI M.D.)***

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers. This mode creates 5 sets of virtual speakers surrounding the listener at a 30° angle of elevation.

**■ Virtual Enhanced Surround A
(V.ENHANCE.A)***

Uses 3D sound imaging to create 3 sets of virtual rear speakers from the sound of the front speakers.

**■ Virtual Enhanced Surround B
(V.ENHANCE.B)***

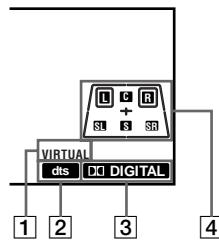
Uses 3D sound imaging to create 1 set of virtual rear speakers from the sound of the front speakers.

* "VIRTUAL" sound field: Sound field with virtual speakers. However, for "SEMI C.EX A-C", the sound characteristics of each cinema production studio is reproduced without virtual speakers when "VIR.SP." in the SUR menu is set to "OFF".

Notes

- The sound field you can select depends on the mode currently selected (MUSIC MODE or MOVIE MODE). If the button (MUSIC MODE or MOVIE MODE) for the sound field you want does not light up, you cannot select the sound field by turning FILE SELECT. Press MUSIC MODE or MOVIE MODE first to light the indicator.
- The effects provided by the virtual speakers may cause increased noise in the playback signal.
- If you change the settings of sound, such as changing the sound field menu, while recording, the recording sound is interrupted at the point.

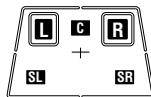
Understanding the multi channel surround displays



- 1 VIRTUAL:** Lights up when the sound field with virtual speakers is selected.
- 2 dts:** Lights up when DTS signals are input.
- 3 DOLBY DIGITAL:** Lights up when the unit is decoding signals recorded in the Dolby Digital format.
- 4 Playback channel indicators:** The letters (L, C, R, etc.) indicate the channels being played back. The boxes around the letters "L" and "R" show that the unit downmixes the source sound into the "L" and "R" channels. When using sound fields like "LARGE HALL" or "SMALL HALL", the unit adds reverberation based on the source sound.
L (Front Left), R (Front Right), C (Center (monaural)), SL (Rear Left), SR (Rear Right), S (Rear (monaural))

Example:

Recording format (Front /Rear): 3/2
Output channel: Front left and right
Sound Field: GAME



Customizing sound fields

By adjusting the surround parameters and the equalization of the front speakers, you can customize the sound fields to suit your particular listening situation.

Once you customize a sound field, the changes are stored in the memory indefinitely (unless the unit is unplugged for half a day). You can change a customized sound field any time by making new adjustments to the parameters.

See the table on page 34 for the parameters available in each sound field.

Adjusting the surround parameters

The SUR menu contains parameters that let you customize various aspects of the current sound field. The settings available in this menu are stored individually for each sound field.

- 1 Start playing a program source encoded with multi channel surround sound, then select a sound field.**
MULTI CHANNEL DECODING indicator lights up when the tuner is decoding signals recorded in a multi channel format.
When the selected sound field contains adjustable surround parameters, the SUR button lights up.

- 2 When the SUR button lights up, press SUR.**

The button starts blinking and the first parameter is displayed.

- 3 Press \leftarrow or \rightarrow repeatedly to select the parameter you want to adjust.**
- 4 Press \uparrow or \downarrow repeatedly to select the setting you want.**
The setting is stored.

- 5 Press ENTER (A/V amplifier or remote).**
The SUR button lights up. See the table on page 34 for the surround parameters.

■ Effect level (EFFECT)

Lets you adjust the “presence” of the current surround effect.

■ Wall type (WALL)

Lets you control the level of the high frequencies to alter the sonic character of your listening environment by simulating a softer (S) or harder (H) wall. The midpoint designates a neutral wall (made of wood).

■ Reverberation (REVERB)

Lets you control the spacing of the early reflections to simulate a sonically longer (L) or shorter (S) room. The midpoint (0) designates a standard room with no adjustment.

■ Screen depth (S.DEPTH)

Lets you create the same sensation in your listening room by shifting the sound of the front speakers “into” the screen. This parameter can be set to “OFF”, “M” (MID), or “D” (DEEP). “D” provides the greatest amount of screen depth.

■ Virtual speaker (VIR.SP.)

Lets you turn the virtual speakers created by the SEMI C.EX A, B, C sound fields off or on.

Adjusting the level parameters

The SP. LEVEL menu contains parameters that let you adjust the balance of front speakers and speaker volume of the subwoofer. The settings available in this menu are applied to all sound fields.

1 Press SET UP.

2 Press \leftarrow or \rightarrow repeatedly to select “SP. LEVEL”.

3 Press ENTER (A/V amplifier or remote).

4 Press \leftarrow or \rightarrow repeatedly to select the parameter you want to adjust.

5 Press \uparrow or \downarrow repeatedly to select the setting you want.

The setting is stored.

6 Press ENTER (A/V amplifier or remote).

See the table on page 34 for the speaker level parameters.

■ Front balance (FRONT)

Lets you adjust the balance between the front left and right speakers.

■ Subwoofer level (SUB W.)

Lets you adjust the level of the subwoofer.

■ LFE (Low Frequency Effect) mix level (LFE)

Lets you attenuate the level of the LFE (Low Frequency Effect) channel output from the subwoofer without effecting the level of the bass frequencies sent to the subwoofer from the front channels via the Dolby Digital bass redirection circuitry.

- “0 dB” outputs the full LFE signal at the mix level determined by the recording engineer.
- “MUTING” mutes the sound of the LFE channel from the subwoofer. However, the low frequency sounds of the front speakers are output from the subwoofer.

■ Dynamic range compressor (D.COMP.)

Lets you compress the dynamic range of the sound track. This may be useful when you want to watch movies at low volumes late at night.

- “OFF” reproduces the sound track with no compression.
- “STD” reproduces the sound track with the dynamic range intended by the recording engineer.
- “0.1” – “0.9” allow you to compress the dynamic range in small steps to achieve the sound you desire.
- “MAX” provides a dramatic compression of the dynamic range.

Note

Dynamic range compression is possible with Dolby Digital sources only.

continued

Customizing sound fields (continued)

Adjusting the equalizer

The EQ menu lets you adjust the equalization (low, mid, and high frequencies) of the front speakers. The equalizer settings are stored individually for each sound field.

1 Start playing a program source encoded with multi channel surround sound, then select a sound field.

When the selected sound field contains adjustable equalizer parameters, the EQ button lights up.

2 When the EQ button lights up, press EQ.

The button starts blinking and the first parameter is displayed.

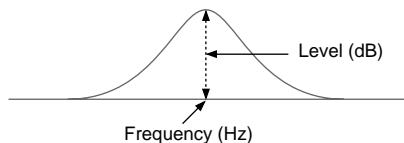
3 Press \leftarrow or \rightarrow repeatedly to select the parameter (gain (dB) or frequency (Hz)) you want to adjust.

4 Press \uparrow or \downarrow repeatedly to select the setting you want.

The setting is stored.

5 Press ENTER (A/V amplifier or remote).

The EQ button lights up. See the table on page 34 for the equalizer parameters.



To turn on/off the equalizer

Press EQ ON/OFF. The EQ indicator in the display lights up when the equalizer is turned on. When you adjust the equalizer using the EQ parameters, the settings are stored separately for each sound field and can be reproduced whenever you turn on the equalizer.

■ **Front speaker bass (BASS) (Gain/Frequency)**

Lets you adjust the gain and frequency of bass.

■ **Front speaker midrange (MID) (Gain/Frequency)**

Lets you adjust the gain and frequency of midrange.

■ **Front speaker treble (TREB) (Gain/Frequency)**

Lets you adjust the gain and frequency of treble.

Resetting customized sound fields to the factory settings

To reset the settings of a customized sound field

1 Turn FILE SELECT to select the sound field you want to reset the settings.

2 Press SET UP.

3 Press \leftarrow or \rightarrow repeatedly to select "RESET MENU".

4 Press ENTER (A/V amplifier or remote).

5 Press \leftarrow or \rightarrow repeatedly to select "CUR. F. RESET".

6 Press ENTER (A/V amplifier or remote) again.

All the surround, equalizer, and speaker level parameters of the selected sound field are reset to the factory settings.

To cancel

Press SET UP.

To reset the settings of all the customized sound fields

- 1** Press SET UP.
- 2** Press \leftarrow or \rightarrow repeatedly to select "RESET MENU".
- 3** Press ENTER (A/V amplifier or remote).
- 4** Press \leftarrow or \rightarrow repeatedly to select "ALL F. RESET".
- 5** Press ENTER (A/V amplifier or remote) again.

All the surround, equalizer, and speaker level parameters are reset to the factory settings.

To cancel

Press SET UP.

Changing the spectrum analyzer display

Press and hold DISPLAY for more than 2 seconds.

Each time you press the button, the display changes as follows:

SPECTRUM ON \leftrightarrow SPECTRUM OFF

To adjust the brightness of the display

- 1 Press SET UP.
- 2 Press \leftarrow or \rightarrow repeatedly to select "DIMMER".
- 3 Press ENTER (A/V amplifier or remote).
- 4 Press \uparrow or \downarrow repeatedly to select the setting you want.
The setting is stored.
- 5 Press ENTER (A/V amplifier or remote).

Falling asleep to music

— Sleep Timer

You can set the system to turn off at a preset time, so you can fall asleep to music.

Press SLEEP on the remote.

Each time you press the button, the minute display (the turn-off time) changes as follows:
OFF \rightarrow AUTO* \rightarrow 90min \rightarrow 80min \rightarrow 70min \rightarrow ... \rightarrow 10min

* The power turns off when the current CD or tape finishes playback (for up to 100 minutes).

To	Press
Check the remaining time	SLEEP once.
Change the time to turn off	SLEEP repeatedly to select the time you want.
Cancel the Sleep Timer	SLEEP repeatedly until "SLEEP OFF" appears.

Waking up to music

— Daily Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Setting the time" on page 9).

- 1 Prepare the music source you want to play.
 - CD: Load a CD. To start from a specific track, make a program (see "Programming the CD tracks" on page 12).
 - Tape: Load a tape with the side you want to play facing forward.
 - Radio: Tune in the preset station you want (see "Listening to the radio" on page 14).
- 2 Adjust the volume.
- 3 Press CLOCK/TIMER (or CLOCK/TIMER SET on the remote).
"DAILY1 SET" appears.
- 4 Press \uparrow or \downarrow repeatedly to select "DAILY 1 (or 2)", then press ENTER (A/V amplifier or remote).
"ON" appears and the hour indication flashes.

5 Set the time to start playback.

Press \uparrow or \downarrow repeatedly to set the hour, then press ENTER (A/V amplifier or remote).

The minute indication flashes.

Press \uparrow or \downarrow repeatedly to set the minutes, then press ENTER (A/V amplifier or remote).

The hour indication flashes again.

6 Set the time to stop playback following step 5.**7 Press \uparrow or \downarrow repeatedly until the music source you want appears.**

The indications change as follows:

**8 Press ENTER (A/V amplifier or remote).**

The type of timer ("DAILY 1" or "DAILY 2"), followed by the start time, stop time and the music source, appears, then the original display appears.

9 Turn off the power.**Notes**

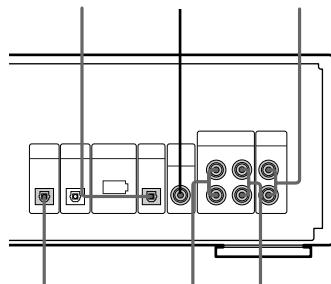
- If the power is on at the preset time, the Daily Timer does not work.
- When you use the Sleep Timer, the Daily Timer will not turn on the system until the Sleep Timer turns it off.
- The power turns on 15 seconds before the preset time.

To	Do this
Check the setting	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote) and press \uparrow or \downarrow repeatedly to select the respective mode ("DAILY 1" or "DAILY 2"), then press ENTER (A/V amplifier or remote).
Change the setting	Start over from step 1.
Cancel the Daily Timer	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote) and press \uparrow or \downarrow repeatedly to select "TIMER OFF", then press ENTER (A/V amplifier or remote).

Connecting audio components

To connect audio components, connect to the jacks on the rear panel of the tuner.

To the digital input jack of an MD deck or DVD player To subwoofer To the analog output jacks of a VCR



To the digital output jack of an MD deck or DVD player To the analog input jacks of an MD deck To the analog output jacks of an MD deck

To	Do This
Make a digital recording from CD to MD	Connect an optional optical cable.
Listen to the digital sound of a connected MD deck	Press DIGITAL.
Listen to the analog sound of a connected MD deck	Turn FUNCTION to select "MD".
Listen to the analog sound of a connected VCR	Turn FUNCTION to select "VIDEO".

Tip

When you remove the optical cover, keep it for future use.

Notes

- Make sure to match the color of the plugs and the connectors.
- When you connect a VIDEO CD player, connect the audio output jacks of the VIDEO CD player to the MD IN jacks of this unit.
- Digital signals are output from DIGITAL OUT jack during CD or DIGITAL function only. Besides, the sound output from the DIGITAL OUT jack is not affected by the sound adjustment.
- This unit is not compatible with 96 kHz sampling frequencies and SACD format.

Precautions

On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the unit from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the unit and have the component checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at a qualified service shop.

On placement

- Do not place the unit in an inclined position.
- Do not place the unit in locations where it is:
 - extremely hot or cold.
 - dusty or dirty.
 - very humid.
 - vibrating.
 - subject to direct sunlight.

On heat buildup

- Although the unit heats up during operation, this is not a malfunction.
- Place the unit in a location with adequate ventilation to prevent heat build-up in the unit.

If you continuously use this unit at a large volume, the cabinet temperature of the top, side and bottom rises considerably. To avoid burning yourself, do not touch the cabinet.

To prevent a malfunction, do not cover the ventilation hole for the cooling fan.

On operation

- If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player. Should this occur, the unit will not operate properly. Remove the CD and leave the unit turned on for about an hour until the moisture evaporates.
- When you move the unit, take out any discs.

If you have any questions or problems concerning the unit, please consult your nearest Sony dealer.

Notes on CDs

- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.
- Do not use solvents.
- Do not expose the CD to direct sunlight or heat sources.
- Discs with non-standard shapes (e.g., heart, square, star) cannot be played on this unit. Attempting to do so may damage the unit. Do not use such discs.

Note on CD-R/CD-RW playback

Discs recorded on CD-R/CD-RW drives may not be played back because of scratches, dirt, recording condition or the drive's characteristics. Besides, the discs, which are not yet finalized at the end of recording, cannot be played back.

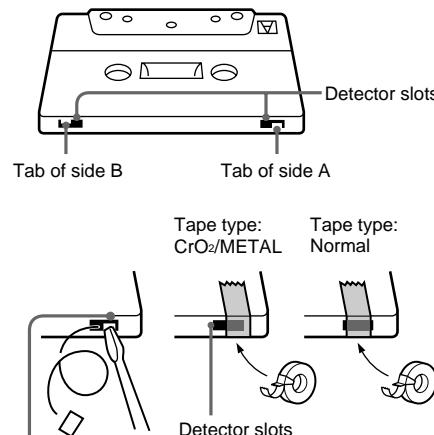
Cleaning the cabinet

Use a soft cloth slightly moistened with mild detergent solution.

To save a tape permanently

To prevent a tape from being accidentally recorded over, break off the cassette tab from side A or B as illustrated.

If you later want to reuse the tape for recording, cover the broken tab with adhesive tape. However, be careful not to cover the detector slots which allow the tape player to automatically detect the type of tape.



Break off the cassette tab of side A

continued

Before placing a cassette in the tape deck

Take up any slack in the tape. Otherwise the tape may get entangled in the parts of the tape deck and become damaged.

When using a tape longer than 90 minutes

The tape is very elastic. Do not change the tape operations such as play, stop, and fast-winding etc. frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use. Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use a separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

Demagnetizing the tape heads

Demagnetize the tape heads and the metal parts that have contact with the tape every 20 to 30 hours of use with a separately sold demagnetizing cassette. For details, refer to the instructions of the demagnetizing cassette.

Troubleshooting

If you run into any problem using this unit, use the following check list.

First, check that the power cord is connected firmly and the speakers are connected correctly and firmly.

Should any problem persist, consult your nearest Sony dealer. When bringing the system in for repairs, be sure to bring in the entire system. This product is a system product, and the entire system is necessary to determine the location requiring to repair.

General

The display starts flashing as soon as you plug in the power cord even though you haven't turned on the power.

- The demonstration mode started. Press **I/Off** (see step 5 on page 8).

The clock setting/timer is canceled.

- The power cord is disconnected or a power failure occurs. Redo "Setting the time" (page 9). If you have set the timer, redo "Waking up to music" (page 26) and/or "Timer-recording radio programs" (page 18).

The radio presetting is canceled.

- The power cord is disconnected or a power failure occurs for longer than half a day. Redo "Presetting radio stations" (page 14).

There is no sound.

- Turn **VOLUME** clockwise.
- The headphones are connected.
- Insert only the stripped portion of the speaker cord into the **SPEAKER** jack. Inserting the vinyl portion of the speaker cord will obstruct the speaker connections.
- The protective device on the amplifier has been activated because of a short circuit. ("PROTECT" and "PUSH POWER" flash alternately.) Turn off the power, eliminate the short-circuit problem and turn on the power again.
- There is no audio output during Timer-recording.

There is severe hum or noise.

- A TV or VCR is placed too close to the unit. Move the unit away from the TV or VCR.

"--:--" lights up in the display.

- A power interruption occurred. Set the clock and timer settings again.

The timer does not function.

- Set the clock correctly.
- You cannot activate the Daily timer and the Timer-recording simultaneously.

“DAILY 1”, “DAILY 2”, or “REC SELECT” does not appear when you press TIMER SELECT (or CLOCK/TIMER SELECT on the remote).

- Set the timer correctly.
- Set the clock.

The remote does not function.

- There is an obstacle between the remote and the unit.
- The remote is not pointing in the direction of the unit’s sensor.
- The batteries have run down. Replace the batteries.

There is acoustic feedback.

- Decrease the volume level.
- Move the microphone away from the speakers or change the direction of the microphone.

The color irregularity on a TV screen persists.

- Turn off the TV set once, then turn it on after 15 to 30 minutes. If the color irregularity still persists, place the speakers farther away from the TV set.

“PROTECT” and “PUSH POWER” appear alternately.

- A strong signal is input. Turn off the power, leave the system turned off for a while, then turn on the power again. If “PROTECT” and “PUSH POWER” still appear alternately, check the speaker cords.

Speakers

Sound comes from only one channel or unbalanced left and right volume.

- Check the speaker connection and speaker placement.
- The source being played back is monaural.
- Adjust the balance parameters (page 23).

Sound lacks bass.

- Check that the speaker’s + and – terminals are connected correctly.

CD Player

The CD tray does not close.

- The CD is not placed properly.

The CD will not play.

- The CD is not lying flat in the disc tray.
- The CD is dirty (see page 29).
- The CD is inserted label side down.
- Moisture condensation has built up.

Playback does not start from the first track.

- The player is in Program Play or Shuffle Play mode. Press PLAY MODE repeatedly until “1 DISC” or “ALL DISCS” appears.

“OVER” is displayed.

- You have reached the end of the CD or tape by pressing ►► to fast forward.

Tape Deck

The tape does not record.

- The tab has been removed from the cassette (see “To save a tape permanently” on page 29).
- The tape has reeled to the end.

The tape does not record nor play, or there is a decrease in sound level.

- The heads are dirty (see “Cleaning the tape heads” on page 30).
- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 30).

The tape does not erase completely.

- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 30).

There is excessive wow or flutter, or the sound drops out.

- The capstans or pinch rollers are dirty (see “Cleaning the tape heads” on page 30).

Noise increases, or the high frequencies are erased.

- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 30).

After pressing ► (◀) or ▲, there is a mechanical noise, “EJECT” appears in the display, and the unit enters standby mode automatically.

- The cassette tape has not inserted correctly.

continued

Tuner

There is severe hum or noise ("TUNED" or "STEREO" flashes in the display).

- Adjust the antenna.
- The signal is too weak. Connect an external antenna.

A stereo FM program cannot be received in stereo.

- Press STEREO/MONO so that "MONO" disappears.

If other troubles not described above occur, reset the system as follows:

1 While holding down DIGITAL, press DISPLAY.

2 Press I/□ to turn on the power.

The unit is reset to factory settings. All the settings are cleared.

Specifications

Amplifier section

DIN power output (rated)	60 + 60 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)	80 + 80 watts (6 ohms at 1 kHz, 10% THD)
Music power output (reference)	150 + 150 watts (6 ohms at 1 kHz, 10% THD)

Inputs	
VIDEO (AUDIO) IN:	voltage 250 mV, impedance 47 kilohms
(phono jacks)	
MD IN:	voltage 450 mV, impedance 47 kilohms
(phono jacks)	
OPTICAL IN:	(Square optical connector jacks, rear panel)
wavelength	700 nm

Outputs	
MD OUT:	voltage 250 mV
(phono jacks)	impedance 1 kilohms
PHONES:	accepts headphones of 8 ohms or more
(stereo mini jack)	
FRONT SPEAKER:	accepts impedance of 6 to 16 ohms
SUB WOOFER OUT:	Voltage 1 V, impedance 1 kilohms

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser ($\lambda=795$ nm)
	Emission duration: continuous
Frequency response	2 Hz – 20 kHz (± 0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
OPTICAL OUT	(Square optical connector jack, rear panel)

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	60 – 13,000 Hz (± 3 dB), using Sony TYPE I cassette,
	60 – 14,000 Hz (± 3 dB), using Sony TYPE II cassette
Wow and flutter	$\pm 0.15\%$ W.Peak (IEC) 0.1% W.RMS (NAB) $\pm 0.2\%$ W.Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	531 – 1,602 kHz (with the interval set at 9 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

Speaker SS-S3

Speaker system	3-way, 3-unit, bass-reflex type, magnetically shielded type
Speaker units	
Woofer:	15 cm, cone type
Subwoofer:	15 cm, cone type
Tweeter:	2.8 cm, dome type
Nominal impedance	6 ohms
Dimensions (w/h/d)	Approx. 235 x 470 x 265 mm
Mass	Approx. 7.3 kg net per speaker

General

Power requirements	230 V AC, 50/60 Hz
Power consumption	180 watts 0.6 watts (during Power Saving Mode)
Dimensions (w/h/d)	
TA-S3:	Approx. 280 x 128 x 350 mm
ST-S3:	Approx. 280 x 108 x 340 mm
CDP-S3:	Approx. 280 x 108 x 330 mm
TC-S3:	Approx. 280 x 128 x 330 mm
Mass	
TA-S3:	Approx. 6.2 kg
ST-S3:	Approx. 2.1 kg
CDP-S3:	Approx. 2.7 kg
TC-S3:	Approx. 2.4 kg
Supplied accessories:	AM loop antenna (1) FM lead antenna (1) Remote commander (1) Batteries (2) Speaker cords (2) Optical cable (1)

Design and specifications are subject to change
without notice.

Table for the settings using SUR, EQ, and SET UP buttons

SUR parameters (Press SUR)

Press ← or →	Press ↑ or ↓	Initial setting	Page
EFFECT [XX]	depends on sound field	depends on sound field	22
WALL S/H [X]	S (−8) to H (+8)	midpoint	
REVERB S/L [X]	S (−8) to L (+8)	midpoint	
S.DEPTH [XXX]	OFF, M, D	M	
VIR.SP. [XXX]	ON, OFF	ON	

EQ parameters (Press EQ)

		Press ← or →	Press ↑ or ↓	Page
FRONT BASS	GAIN	BASS [XXX] dB	−8 dB to +8 dB	24
	FREQUENCY	BASS [XXX] kHz	99 Hz to 1.0 kHz	
MID	GAIN	MID [XXX] dB	−8 dB to +8 dB	
	FREQUENCY	MID [XXX] kHz	500 Hz to 5 kHz	
TREBLE	GAIN	TREB [XXX] dB	−8 dB to +8 dB	
	FREQUENCY	TREB [XXX] kHz	1.0 kHz to 10 kHz	

SET UP parameters (Press SET UP)

Press ← or →	Press ← or →	Press ↑ or ↓	Initial setting	Page
SP. LEVEL	FRONT L/R [X]	−6 to +6	center	23
	SUB W. [XX] dB	−10 dB to +10 dB	+10 dB	
	LFE XXXXX	MUTING, −20 dB to 0 dB	0 dB	
	D.COMP.	OFF, 0.1 to 0.9, STD, MAX	OFF	
DIMMER	DIMMER [XXX]	OFF, 1, 2	OFF	26
RESET MENU	CUR. F. RESET	—	—	24
	ALL F. RESET	—	—	

Adjustable parameters for each sound field

The adjusted SUR and EQ parameters are stored in each sound field.

The adjusted SP. LEVEL parameters are applied to all of the sound fields.

	<	SUR		><		SP. LEVEL			>
	EFFECT LEVEL	WALL TYPE	REVERB	SCREEN DEPTH	VIRTUAL SPEAKER	FRONT BALANCE	SUB WOOFER	LFE*	D.COMP.* LEVEL
MUSIC MODE									
2CH STEREO						●	●	●	●
SMALL HALL	●	●	●			●	●	●	●
LARGE HALL	●	●	●			●	●	●	●
OPERA HOUSE	●	●	●			●	●	●	●
JAZZ CLUB	●	●	●			●	●	●	●
DISCO/CLUB	●	●	●			●	●	●	●
CHURCH	●	●	●			●	●	●	●
LIVE HOUSE	●	●	●			●	●	●	●
ARENA	●	●	●			●	●	●	●
STADIUM	●	●	●			●	●	●	●
GAME	●	●	●			●	●	●	●
MOVIE MODE									
SEMI C.EX A	●		●	●	●	●	●	●	●
SEMI C.EX B	●		●	●	●	●	●	●	●
SEMI C.EX C	●		●	●	●	●	●	●	●
V.SEMI M.D.				●	●	●	●	●	●
V.ENHANCE.A				●	●	●	●	●	●
V.ENHANCE.B				●	●	●	●	●	●

* These parameters may not operate depending on the source or may not operate as adjusted. For details, see each item in "Adjusting the level parameters".

continued

Adjustable parameters for each sound field (continued)

	<	EQ					>
		FRONT BASS (dB)	FRONT BASS (Hz)	FRONT MID (dB)	FRONT MID (Hz)	FRONT TREB (dB)	FRONT TREB (Hz)
MUSIC MODE							
2CH STEREO		●	●	●	●	●	●
SMALL HALL		●	●	●	●	●	●
LARGE HALL		●	●	●	●	●	●
OPERA HOUSE		●	●	●	●	●	●
JAZZ CLUB		●	●	●	●	●	●
DISCO/CLUB		●	●	●	●	●	●
CHURCH		●	●	●	●	●	●
LIVE HOUSE		●	●	●	●	●	●
ARENA		●	●	●	●	●	●
STADIUM		●	●	●	●	●	●
GAME		●	●	●	●	●	●
MOVIE MODE							
SEMI C.EX A		●	●	●	●	●	●
SEMI C.EX B		●	●	●	●	●	●
SEMI C.EX C		●	●	●	●	●	●
V.SEMI M.D.		●	●	●	●	●	●
V.ENHANCE.A		●	●	●	●	●	●
V.ENHANCE.B		●	●	●	●	●	●